



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/563,208

01/03/2006

Hiroyuki Matsuura

33082M297

8170

441 7590 12/21/2010
SMITH, GAMBRELL & RUSSELL
1130 CONNECTICUT AVENUE, N.W., SUITE 1130
WASHINGTON, DC 20036

EXAMINER

LEE, KEVIN L

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

12/21/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,208	Applicant(s) MATSUURA, HIROYUKI	
	Examiner KEVIN L. LEE	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,6,7,9 and 12-16 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7,9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/14/10 & 12/16/10</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 1, 7 and 9 are objected to because of the following informalities: The recitation "is provided therein with" in lines 16 and 19 of claim 1; lines 13 and 16 of claim 7 and lines 11 and 14 of claim 9 is vague and indefinite. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 6, 7, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masayuki (JP 08-285132) in view of Walters, Jr. (US 4,383,546) and Dahl et al (US 2,254,472). Masayuki discloses all of the claimed features including a low pressure system comprising a reaction vessel "vacuum chamber" connected to an exhaust passage (35), a gate valve (32) provided in the exhaust passage (35), the system being configured to process substrate contained in the reaction vessel "vacuum chamber" by a predetermined treatment "heating function" by supplying a process gas into the vacuum chamber (see abstract) while maintaining reduced pressure; the gate valve (32) has a valve element (14) and valve seat (25) both with annular surfaces, the valve element (14) is provided with a sealing member (26); the gate valve (32) regulates

Art Unit: 3753

pressure by adjusting the gap "clearance" between the valve element (14) and the valve seat (25), closing the exhaust passage (35) when the valve element (14) is seated on the valve seat (25). Masayuki lacks having a plurality of gas supply ports circumferentially arrayed besides the surfaces of the valve element and valve seat in communication with an annular communication chamber, and at least one purge gas valve and controller to control the supply of purge gas. Walters teaches the above exception in providing a valve comprising a plurality of purge gas supply ports (56, 58) circumferentially arrayed besides the surfaces of a valve seat (40) in communication with an annular communication chamber (54), further comprising a valve (130) and a controller switch (90) to control the supply of purge gas. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Masayuki to include purge gas supply ports as taught by Walters for the purpose of additionally cleaning and removing any unwanted particles not removed from the heating function. Dahl teaches a gate valve comprising a valve element (24) with a plurality of purge gas supply ports (55) circumferentially arrayed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Masayuki to include a valve element with a purge gas supply ports as taught by Dahl for the purpose of providing additional means of cleaning and removing unwanted particles. In particular regard to claim 16, the purge gas supply ports are capable of preventing deposition of reaction-by-products on the gate valve.

Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joebken (US 3,133,554) in view of Dahl et al (US 2,254,472) and Iwabuchi (US 5,678,595). The patent to Joebken discloses all the claimed features including a valve comprising a valve element (15) that has an annular surface and a valve seat (25) with an opposing annular surface; the valve regulates (using hand wheel 28) a gap (25') between the valve element (15) and valve seat (25) hermetically closing the exhaust passage (18); the valve is provided with a plurality of purge gas supply ports (20-22) circumferentially arrayed beside the annular surfaces of the valve seat (25) to jet a purge gas (col. 1, lines 29-36); plurality of purge gas supply ports (20-22) are in communication with an annular communication chamber (23'). Joebken fails to disclose a valve element with a plurality of purge gas supply ports and a sealing member in the annular surface of the valve element or valve seat. Dahl teaches the above exception in providing a gate valve comprising a valve element (24) with a plurality of purge gas supply ports (55) circumferentially arrayed. In view of the teaching of Dahl, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Joebken to include a valve element with purge gas supply ports for the purpose of providing additional means of cleaning and removing unwanted particles. Iwabuchi teaches an exhaust valve comprising a valve seat (7) and a valve element (5) with an annular surface including a sealing member (8). In view of the teaching of Iwabuchi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Joebken to include a sealing member for the purpose of providing an air tight seal between the valve element and the valve seat.

Conclusion

This is a continuation of applicant's earlier Application No. 10/563,208. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN L. LEE whose telephone number is (571) 272-4915. The examiner can normally be reached on MONDAY-THURSDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hepperle can be reached on (571) 272-4913. The fax phone

Art Unit: 3753

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KEVIN L LEE/

Primary Examiner, Art Unit 3753